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SALMONELLA

SURVEILLANCE

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PREFACE

Summarized in this report is information received from State and City Health Departments, university and hospital laboratories, the National Animal Disease Laboratory (USDA, ARS), Ames, Iowa, and other pertinent sources, domestic and foreign. Much of the information is preliminary. It is intended primarily for the use of those with responsibility for disease control activities. Anyone desiring to quote this report should contact the original investigator for confirmation and interpretation.

Contributions to the Surveillance Report are most welcome. Please address to:

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I. Summary

This fortieth issue of the Salmonella Surveillance Report flags the addition of Dr. Albert R. Martin, EIS Officer, to the Unit. Dr. Martin is welcome!

During July, 1,800 recoveries of salmonellae from human specimens were made. The average number of isolations reported per week was 450, an increase of 15 over the previous month and 18 over July, 1964.

A total of 769 nonhuman isolations were reported during July. The large increase over the 454 recoveries reported last month reflects, in part, the addition of the U. S. Food and Drug Administration as a reporting center.

II. REPORTS OF ISOLATIONS FROM THE STATES

A. Human

The seven serotypes most frequently reported from human sources during July were:

<u>Rank</u>	<u>Serotype</u>	<u>Number</u>	<u>Per cent</u>	<u>Rank Last Month</u>
1	<u>S. typhi-murium & S. typhi-murium var. copenhagen</u>	619	34.7	1
2	<u>S. heidelberg</u>	136	7.6	2
3	<u>S. newport</u>	109	6.1	4
4	<u>S. enteritidis</u>	104	5.8	7
5	<u>S. saint-paul</u>	81	4.5	6
6	<u>S. infantis</u>	80	4.5	3
7	<u>S. derby</u>	57	3.2	9
Total		1186	66.4	

Total (all serotypes - August) 1800

These seven serotypes accounted for 66.4 per cent of the 1800 isolations reported during July, while representing only 10.8 per cent of the 65 different serotypes reported. This is consistent with past experience.

The age and sex distribution of persons reported as harboring salmonellae is consistent with past experience (Table IV). Two consistencies which warrant special note are: 1) over 60 per cent of the individuals reported were less than 20 years of age and 2) a predominance of males is evident in the group less than 20 years of age and females in the group 20 years old and more. This was true in 1963 and 1964 as well.

B. Nonhuman

During the month of July, reports were received on 769 salmonella isolations from nonhuman sources. This number, however, includes late reports for June from the National Animal Disease Laboratory and for March, April, May, and June, from the U. S. Food and Drug Administration, which accounts for the increase of 454 cultures over those recorded in the June report. There were 63 serotypes identified among those submitted from 38 States.

The seven most common types reported for July were as follows:

Rank	Serotype	Number	Per cent	Rank Last Month
1	<u>S. typhi-murium</u> & <u>S. typhi-murium</u> <u>var. copenhagen</u>	165	21.5	1
2	<u>S. heidelberg</u>	66	8.6	Not listed
3	<u>S. montevideo</u>	46	6.0	Not listed
4	<u>S. infantis</u>	44	5.7	7
5	<u>S. pullorum</u>	32	4.2	3
6	<u>S. schwarzengrund</u>	29	3.8	Not listed
7	<u>S. chester</u>	26	3.4	Not listed

These seven types accounted for 53.2 per cent of the total.

The four species from which most of the isolations were obtained in order of frequency are: chickens, 239 (31.0 per cent); turkeys, 192 (25.0 per cent); swine, 36 (4.7 per cent); and cattle, 24 (3.1 per cent).

Several rare serotypes were reported. Salmonella gatow reported in 1963 from man in Louisiana, was recovered from a turtle in Pennsylvania. Salmonella manilae was reported from fish meal in Indiana. Previous isolations of this type since 1963 have been from feed or fertilizer in Tennessee and Texas, and from domestic fowl in Missouri. A single isolate was reported from man in North Carolina in 1964. Salmonella mission, isolated from meat scraps in Mississippi this month, has been reported previously from swine, chicken, and buffalo. Two human isolates were reported from Florida this month (See Table III). One type, S. drypool, reported for the first time in the United States, was from a cow in Florida.

III. CURRENT INVESTIGATIONS

Isolation of Salmonella Organism from Dried Whole Egg Solids. Reported by Ernest A. Ager, M.D., Chief, Division of Epidemiology, Washington State Department of Health, Kenrad Nelson, M.D., EIS Officer assigned to Washington State Department of Public Health, Everette F. Baker, D.V.M., Public Health Service Veterinarian assigned to the Washington State Department of Public Health, Carl D. Olsen, D.V.M., Staff Veterinarian, Milk and Food Branch, DEEFP, USPHA, and Mary Elizabeth Nelson, Microbiologist, Veterinary Public Health Laboratory, CDC.

In March 1965, an outbreak of salmonellosis among Indians in Yakima County Washington due to Salmonella typhi-murium was investigated by the Washington Health Department. During the course of the investigation, cans of dried whole egg solids were obtained from three households in which recent cases of salmonellosis had occurred. Salmonella organisms were recovered from the dried whole eggs in each of the three households; serotypes included S. tennessee and S. oranienburg. Cultures from the ill persons in these households revealed S. typhi-murium, S. bredeney, and S. schwarzengrund. Subsequently, a case of gastroenteritis in a 7-month-old infant was investigated in Grays Harbor County Washington. Salmonella tennessee was recovered from both the infant and from the dried whole egg powder in the home.

The product in question consisted of 13 oz. and 3 lb. cans of whole dried egg solids distributed to welfare recipients by the Washington State Department of Public Assistance. These eggs had been purchased by the U. S. Department of Agriculture. The cans of whole dried egg solids were reported to have been produced under conditions of good commercial practices in processing plants operating under the supervision of the U. S. Department of Agriculture Inspection Services. The Washington State Department of Health submitted a total of 160 specimens of the powdered eggs to the Veterinary Public Health Laboratory, CDC, for examination. A total of 54 (33 per cent) were found positive for salmonella organisms. Salmonella tennessee

was the most common serotype isolated; other serotypes present included S. oranienburg, S. montevideo, S. newington, and S. infantis.

Additional isolations were verified by the USDA Laboratory in Chicago. Salmonella organisms were recovered from 60 per cent of shelf samples submitted from the State of Washington. The shelf samples submitted were from one to three years old. Recently, USDA authorities at the plants where these eggs were processed have studied the effects of substantial modifications made in equipment and procedures and will continue these studies. Effective June 1, 1965, the USDA adopted a regulation requiring pasteurization to kill salmonella prior to the drying process or testing of the product for the absence of salmonella in plants under their supervision. Effective January 1, 1966, all egg products except dried whites must be pasteurized and on June 1, 1966, all egg products, including egg whites, must be pasteurized.

As a result of the investigation, hold orders were placed on further distribution of the dried whole egg solids from the three surplus warehouses in the State of Washington. Furthermore, all State and private institutions using the dried egg products were notified by telegram to discontinue use of the product until further notice. Additional studies are now in progress.

IV. REPORTS FROM THE STATES

A. Georgia

A Review of Recent Aspects of Salmonellosis in Georgia. Reported by John E. McCroan, Ph.D., Director, Disease and Disability Studies; Thomas McKinley, Public Health Ecologist; and Alice Brim, Director of Program Services, Laboratory Branch, Georgia Department of Public Health.

An active interest in salmonellosis is maintained by the Georgia Department of Public Health. There is considerable interest in various aspects of control of salmonellosis in this State where the Poultry Industry plays a significant role in the economy.

Of the more than 900 serologically distinct types of salmonellae now recognized, 76 have been recovered one or more times from patients in Georgia since 1950. The five more common serotypes for the entire period 1950-64 in order of frequency of their occurrence are as follows: S. typhi-murium, S. newport, S. blockley, S. oranienburg, and S. heidelberg.

With the exception of S. typhi-murium, the frequency of isolation from year to year is sufficiently variable to produce a considerable rearrangement in the ranking of the five most often recovered serotypes. Epidemic investigations have a marked effect on relative standing of the different serotypes but, once established, a serotype may persist for several years. This is illustrated by the following table ranking serotypes according to frequency of isolation by 2-year periods from 1955 through 1964.

Serotype	Total	Rank Order				
		1955-56	1957-58	1959-60	1961-62	1963-64
<u>S. typhi-murium</u>	1	1	1	1	1	1
<u>S. newport</u>	2	3	3	2	2	3
<u>S. blockley</u>	3	2	4	3	7	7
<u>S. heidelberg</u>	4	13	6	10	8	2
<u>S. infantis</u>	5	5	5	4	5	4
<u>S. oranienburg</u>	6	4	6	5	4	12
<u>S. montevideo</u>	7	3	7	11	7	10
<u>S. javiana</u>	8	9	8	9	6	5

Serotype	Total	1955-56	1957-58	1959-60	1961-62	1963-64
<u>S. anatum</u>	9	4	10	12	3	17
<u>S. derby</u>	10	6	13	8	4	11
<u>S. californica</u>	11	14	2	19	-	25

It is interesting that S. blockley was not recovered in Georgia prior to 1955, when only two isolations were made. However, in 1956 this serotype became even more prominent than S. typhi-murium. This was due to a state-wide outbreak in which the organism was disseminated by commercial chicken salad. A total of 140 primary isolations were made that year from cultures submitted to the central and branch laboratories; on the basis of sampling interviews, a total of 3,000 symptomatic cases are believed to have occurred although the difficulty was soon discovered and corrected.

This episode illustrates the ease with which salmonellae may be disseminated to large numbers of persons through widely distributed products and the importance of good reporting and close surveillance of salmonellosis. Age specific attack rates were calculated on the 526 confirmed cases of salmonellosis reported in Georgia in 1964 in which data on age was available. Results were as follows:

<u>Age Group</u>	<u>Attack Rate (per 100,000)</u>
1	100.0
1-4	35.0
5-9	9.8
10-14	4.7
15-24	8.0
25-34	11.0
35-44	6.8
45-54	8.1
55-64	9.4
65-74	3.5
75-84	7.2
85+	18.0

The highest attack rates are noted to be in the age group less than 1, 1-4, and over 85, a pattern which conforms to that observed in national reporting of salmonella infection. At least two outbreaks in Georgia and a number of scattered cases have been traced to contact of young children with live Easter chicks or ducklings and two outbreaks related to contact with pet turtles.

The attack rate for the combined period 1963-1964 for the State, based on total reported cases and total population is 14.3 per 100,000. Forty-nine out of 159 counties failed to record a single case most probably because the usefulness of determining serotypes and investigating sources of infection was not adequately understood in those areas. If the rate is calculated purely on the basis of the population of the 110 counties where salmonellosis was reported, it becomes 16.8 per 100,000. No doubt this is considerably lower than the actual incidence, since all cases are not discovered in these counties and many of those which do become known are not reported, nor are isolates always referred by hospital laboratories to the central laboratory for serotyping.

B. Illinois

- (1) Nonhuman Salmonella Isolation: Salmonella oslo & wassenaar in Marmoset Monkeys. Reported by Samuel L. Andelman, M.D., Commissioner of Health; Olga Brolnitsky, M.D. and Herbert L. Slutsky, M.D., Epidemiologists, Chicago Board of Health.

Beginning in January 1965, and continuing through March 1965, a large city hospital received several shipments of marmoset monkeys. The marmosets were to be used in cancer research and they were housed in the animal research laboratory. Fecal cultures of the animals yielded S. oslo and S. wassenaar.

The research director was queried as to the source of supply. The collection center for the marmosets was Leticia, Columbia, South America. Here, in the head waters of the Amazon River, Indian hunters trap and sell the marmosets in Leticia. From there the monkeys are flown to Hollywood, Florida, where they undergo routine quarantine detention. They are then shipped to a Florida distributor who is one of the major suppliers of marmoset monkeys in the South.

The marmosets were described as asymptomatic carriers. The authors were impressed with the handling of animals in the hospital's animal research laboratory and feel that the established routine was most efficient. The infected animals were destroyed. The popularity of marmoset monkeys for medical research as well as for house pets is well known and could possibly serve as a vehicle for the introduction of rare and new serotypes into the United States.

- (2) Outbreak of Gastroenteritis Due to Salmonella typhi-murium.
Reported by Norman J. Rose, M.D., Chief, Bureau of Epidemiology, State of Illinois Department of Public Health; W. M. Talbert, M.D., Regional Health Officer, West Central Region, Illinois Department of Public Health; and J. Marvin Salzman, M.D., Health Officer, City of Springfield, Illinois.

Approximately 100 nurses attended an alumnae banquet in Springfield, Illinois, in late June 1965. Approximately 50 of the nurses developed symptoms of gastroenteritis: temperature elevations, tenesmus, diarrhea in the 36 hours following the banquet. Over 20 nurses were admitted to the hospital; some with extremely high fever and prostration. Several of the patients required intravenous fluids but there were no deaths. Stool cultures were obtained from 27 nurses who attended the banquet and all of these were positive for S. typhi-murium.

The menu served at the banquet included shrimp cocktail, swiss steak, mashed potatoes, green beans, tossed salad with oil-vinegar and thousand island dressing, hot bread, parfait, tea, milk, coffee with and without cream. A questionnaire regarding food histories were sent to all nurses; replies were received from 88. It was apparent from the questionnaire that most of the nurses consumed portions or all of the items on the menu. It was impossible to determine the exact vehicle of infection. All food that had been served had been consumed by waitresses and employees in the kitchen or had been discarded at the time of investigation. Samples of other packages from the same lot of frozen shrimp were examined and found negative for salmonella. All employees associated with food handling in the hotel involved were examined and several were found to be positive for S. typhi-murium. Positive isolations were found from both symptomatic and asymptomatic food handlers.

The outbreak was limited to the evening menu served the nurses, and other menus served to the public apparently resulted in no cases of salmonella gastroenteritis.

- (3) Turtle Associated Salmonellosis - Illinois: Reported by Paul R. Schnurrenberger, D.V.M., Chief Public Health Veterinarian, and Norman J. Rose, M.D., State Epidemiologist, Illinois Department of Public Health.

Two incidents of salmonellosis associated with turtles were reported in April and May 1965.

The first occurred in Kane County, Illinois, in April 1965. A turtle was purchased April 3, for the amusement of two girls, aged 2 and 3. The turtle was removed from the children's environment on April 8 or 9 because of the way the children were "messing" with the turtle. On April 10, the 3-year-old became ill with fever and diarrhea. Two days later the 2-year-old became ill with a similar clinical picture. June 1, stool samples were obtained from the turtle, both patients, and the 9-month-old brother who had no turtle contact. Salmonella heidelberg was isolated from the turtle and from the 3-year-old girl.

The other incident was in a 5-year-old white male from Cook County; date of onset was May 4, 1965, with fever, diarrhea, and dehydration. Salmonella braenderup (group C) was isolated on May 12 and May 14. Three pet turtles owned by the patient yielded salmonella group C on May 15. These isolates were not further typed.

Editor's Comment: Another incident of turtle-associated salmonellosis attributed to S. heidelberg was reported from Chicago (Cook County). There is no known association between the two incidents at this time (See B-4, case 2 below).

- (4) Two unrelated cases of Salmonella heidelberg. Reported by Dr. Samuel L. Andelman, Commissioner of Health, Dr. Olga Brolnitsky and Dr. Herbert L. Slutsky, Epidemiologists, Chicago Board of Health.

Case 1. On Wednesday, June 23, 1965, a 28-year-old male Indian (Hindu) from Trinidad, West Indies, died in Chicago while visiting friends. The death was reported to the Board of Health by the Chicago Police Department who had been informed by friends of the deceased that he had eaten "contaminated food."

The history obtained by the investigating team from the Board of Health revealed some interesting facts. On Sunday, June 20, 1965, the deceased and two friends prepared a popular Indian meal of stewed chicken, rice and carrots. This was eaten for lunch. For supper, which was consumed at approximately 7:30 P.M., canned June peas were added to the unheated stewed chicken leftovers. The evening meal was eaten by only the deceased and one of the two friends. The food preparation area was extremely dirty and the stewed chicken had remained in a pot on the stove for approximately 6 hours between lunch and supper.

Diarrhea began about 7:00 A.M., Monday, June 21, 1965, and was experienced only by the deceased and his friend who had eaten the unheated leftovers. Both young men continued to have numerous watery stools throughout Monday. Medical attention was not sought until the following Tuesday afternoon. For some unexplained reason, they both left a hospital to which they had gone without receiving any treatment. The deceased expired at 5:00 A.M., Wednesday, June 23, 1965.

The remnants of the unheated stewed chicken were obtained, cultured, and found positive for Salmonella heidelberg. A swab culture of the enamelled tray upon which the portable two-burner gas stove stood was also positive for Salmonella heidelberg. The friend who experienced gastroenteritis was admitted to a hospital for treatment and stool specimens obtained from the patient were likewise positive for Salmonella heidelberg.

No autopsy was performed on the deceased, but the Coroner's Certificate of Death listed the immediate cause of death as "Salmonella Infection."

Case 2. Within a 4-day period beginning June 15, 1965, the mother and two young children of a Chicago family experienced an illness characterized by diarrhea, cramps, and high fever. The severity of the gastroenteritis resulted in hospitalization of the youngest child, a 1-year-old white male. Stool specimens were

obtained from the patient and the other two family members, and Salmonella heidelberg was subsequently recovered from each.

The family pet turtle was considered as the prime possible source of infection. It had been in the household about 4 months and was looked after by the mother. The water in its dish was changed every 3 or 4 days, being discharged into the kitchen sink. Samples of turtle water and a cloacal swab were positive for Salmonella heidelberg. The turtle is no longer residing in the household.

C. Maine

Survey of Turtles in Retail Stores in Maine. Reported by Charles Okey, Ph.D., Director, Diagnostic Laboratory; William M. Shook, Jr., Director of Public Health; and Dean Fisher, M.D., Commissioner, State of Maine, Department of Health and Welfare.*

A survey of turtle tank water was conducted between June 2 and 10, 1965, in five retail stores in Bangor, Maine. The same lots of turtles (deceased only by sales) were present in each store during the period. No new shipments were received during this time. All five dealers indicated that their turtles originated in Mississippi, Louisiana, and Florida, but did not know from which State. Sales were reported at a low in spring and summer months with a peak in winter. Among the stores, sales at peak average 100 turtles per month. Results of this survey all presented below:

Outlet	Sampling Date	Number Turtles in Tank(s)	Turtles Received By Store	Source	Results	Identification
A	6/2/65	8	5/2/65	Mississippi	-	
	6/3/65	3				
	6/9/65	1				
	6/10/65	1				
B	6/2/65	200	5/19/65	New York Distributor	-	
	6/3/65	200			-	<u>Salmonella</u> Group C
	6/9/65	120			-	(Also <u>Edwardsiella</u>
	6/10/65	120			+	<u>tarda</u>)
C	6/2/65	32	5/19/65	Louisiana & S. America	-	
	6/3/65	27			+	<u>Salmonella</u> <u>newport</u>
	6/9/65	18			+	<u>Salmonella</u> Group C2
	6/10/65	18			+	<u>Salmonella</u> Group C2
D	6/2/65	30	5/19/65	New York Distributor	+	<u>Salmonella</u> <u>montevideo</u>
	6/3/65	30			-	
	6/9/65	30			+	<u>Salmonella</u> Group C1
						(Also <u>Edwardsiella</u>
	6/10/65	30			-	<u>tarda</u>)
E	6/2/65	17	5/2-9/65	Louisiana	-	
	6/3/65	17			+	<u>Salmonella</u> <u>blockley</u>
	6/9/65	8			+	<u>Arizona</u> <u>species</u>
	6/10/65	No sample taken this date				

* See also reports of turtle-associated salmonellosis from Illinois this issue

D. Nebraska

Report of a Fatal Case of Typhoid Fever. Reported by Larry Parrish, Public Health Advisor, Nebraska State Department of Health; John C. Finegan, M.D., Dawson County Health Officer; Clifford J. Sells, M.D., Epidemic Intelligence Service Officer assigned to the Omaha-Douglas County Health Department; and D. S. Fleming, M.D., Director of Disease Prevention Control, Minnesota State Department of Health.

On June 8, 1965, a 67-year-old Lexington, Nebraska resident was hospitalized in the local hospital with a fever of unknown origin. She had been feeling poorly for approximately 2 months prior to her hospitalization. Evaluation at that time failed to reveal the etiology of the fever but a 1-80 titer for Salmonella Group D was noted. A stool culture was negative for all pathogens. The patient showed slight improvement after a 7-day-course of Chloramphenicol and then was transferred to a hospital in Kearney, Nebraska. The patient was afebrile at the time of transfer and all culture studies were negative. She returned to the nursing home on June 29 and worked until July 6, at which time she traveled to the Mayo Clinic. On July 8 she was admitted to the Mayo Clinic where blood cultures were positive for Salmonella typhi. Serum agglutination test was also positive for Group D Salmonella; stool cultures were negative. The patient subsequently expired on July 16. A thorough epidemiologic study was carried out but the mode of spread could not be determined. The patient managed a small nursing home and did most of the cooking in the home herself despite her illness. No evidence of illness or infection has occurred in the nursing home, which had been under surveillance for the month prior to her death. The patient had very little activity or contact outside the nursing home at any time in the months prior to her illness. Continuing surveillance is being carried on at the nursing home.

V. SPECIAL REPORTS

Isolated Adrenal Abscess Secondary to Salmonella. Abstract from Archives of Surgery, Vol. 90, p. 454, March 1965, by James A. O'Neill, Jr., M.D., and William H. Hall, M.D.

A 62-year-old white male farmer was admitted to the Veterans Administration Hospital, Nashville, Tennessee, with fever and abdominal pain. The patient had a 1½-year history of recurrent fever and chills and had been treated with a 2-week course of Chloramphenicol. In the hospital, the patient's temperature ranged from 99° to 101° and his laboratory findings included normal hemogram, urinalysis, liver function tests, and no pathogens on culture of bone marrow, stool, duodenal aspirate blood and urine. Febrile agglutinins on three occasions were positive for Salmonella Group A, 1:160; Group B, 1:8,000; Group C, 1:16,000; Group D, 1:400; Group E, 1:40,000. Irregular calcification was noted in the left suprarenal area.

Exploratory laparotomy was performed and a fluctuant 5x3.5x2 cm left adrenal abscess was removed. Culture of the abscess revealed Salmonella typhi-murium (Group B). The patient did well postoperatively with a fall toward normal of all salmonella titers 1 year later.

Editor's Comment: This is a report of another of the many interesting manifestations of salmonellosis and of its appropriate treatment. In addition, this well illustrates the difficulties of using serology to identify specific types of salmonella. Salmonella typhi-murium is a Group B Salmonella, yet titers in Groups C and E were higher than in Group B. The serologic cross reactions with other groups of salmonella and with other types of gram negative bacteria are so numerous that only appropriate bacteriologic studies are of value for specific identification.

VI. INTERNATIONAL

Isolations of Salmonellae in Belgium During the Second Quarter of 1965.
Reported by Dr. E. van Oye, Ministry of Public and Family Health, Brussels.

A total of 406 isolations of salmonellae were reported from human sources in Belgium during the second quarter of 1965. Salmonella vaertan was isolated in Belgium for the first time during this quarter; a new serotype, Salmonella liege, was also identified during this period. The seven most frequently isolated serotypes were as follows:

<u>Rank</u>	<u>Serotype</u>	<u>Number of Isolations</u>	<u>Per Cent</u>
1	<u>S. typhi-murium</u>	253	62.3
2	<u>S. panama</u>	68	16.7
3	<u>S. brandenburg</u>	27	5.6
4	<u>S. give</u>	8	1.9
5	<u>S. bovis-morbificans</u>	5	1.7
6	<u>S. stanley</u>	7	1.7
7	<u>S. worthington</u>	4	.9
Total		374	92.1

VII. FOOD AND FEED SURVEILLANCE

- A. An Account of Two Outbreaks of Food Poisoning in Scotland Associated with Imported Canned Meats. Information received from Dr. Robert Cruickshank, Bacteriology Department, University of Edinburgh Medical School.

Salmonella reading outbreak: The first case, occurring October 15, 1964, was a boy of 15 with an acute enteric illness. Salmonellae were isolated from his feces and from the remainder of some uneaten, Hungarian chopped pork in the household. The source was traced back to a shop where S. reading was also isolated from the outside of a parcel of meat (loosely wrapped - unsold remainder), four places on a slicing machine, and two shelves. The chopped pork came from a 6 lb. can but there was no obvious evidence of bacterial contamination. Mild diarrhea occurred in all six shop workers, all of whom yielded S. reading on stool cultures. The total human isolations (including shop workers) was 55, of which many were from families who had bought cold meats on the same day as the first family. Several persons continued to excrete salmonellae for 3 months or more despite antibiotic therapy.

Salmonella tennessee outbreak: On May 20, 1965, a Group C Salmonella (later shown to be S. tennessee) was isolated from a man and his baby son. Another family of five suffered from diarrhea or vomiting and colic on the week end of May 14-15. Both families had eaten Yugoslavian minced pork (canned with no obvious contamination) purchased at the same shop on May 13. Two other families were found who had purchased meat from the same shop on that date and had suffered from diarrhea subsequently. Three staff members in the shop had also been taken ill at this time. In the shop the same salmonella was recovered from two points on the slicing machine, a shelf, a table, and the external surfaces of pieces of pork and bacon. Total number of human isolations was 36.

Dr. Cruickshank stated that laboratory and epidemiological evidence indicated that these canned meats were infected at the cannery. The Ministry of Agriculture for Fisheries and Foods is investigating the canning establishments. It was in this department that Salmonella typhi-murium was isolated from canned, imported corned beef during the Aberdeen typhoid outbreak.

- B. Fish Meal Studies in Peru. Abstracted from the Quarterly Review of the Veterinary Institute for Tropical and High Altitude Research, Universidad Nacional Mayor de San Marcos Facultad de Medicina Veterinaria, Lima, Peru (Food and Agriculture organization of the United Nations). Drs. P.D.L. Guilbride and Manuel Moro have reported on bacteriological studies of fish meal.

Studies are being conducted in the fish meal plants at various stages of processing. In one recent study S. senftenberg and S. anatum were recovered from fish meal. In a study of 100 pools of three species of cockroaches in the fish meal plants S. anatum was isolated from six pools from one factory. Sanitary measures were considered poor in this plant.

C. Egg Pasteurization Regulations:

On August 21, 1965, notice of the proposal of the Food and Drug Administration to require pasteurization of all egg products appeared in the Federal Register. The California Legislature recently passed a law requiring pasteurization of all egg products after June 1, 1966. Their law also prohibits the use of incubator reject eggs with adhering dirt, and leakers (unless developed at the plant). Colorado's new egg pasteurization law is based on USDA regulations governing the grading and inspection of egg products.

REPORTED HUMAN ISOLATIONS OF SALMONELLAE IN THE UNITED STATES

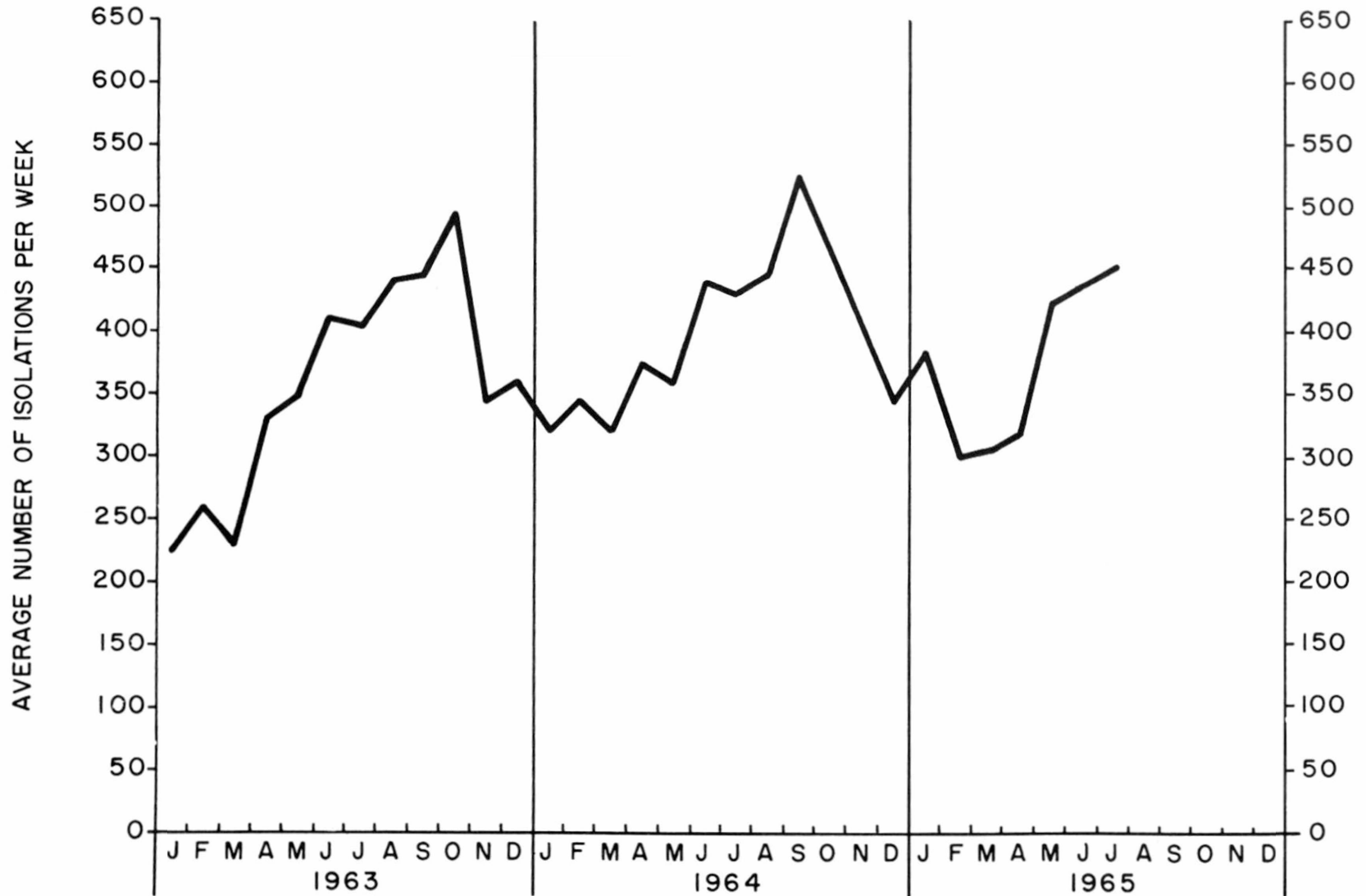


TABLE I
SALMONELLA SEROTYPES ISOLATED FROM HUMANS DURING **JULY, 1965

S E R O T Y P E	R E G I O N A N D R E P O R T I N G C E N T E R																		
	N E W E N G L A N D							M I D D L E A T L A N T I C							E A S T N O R T H C E N T R A L				
	MAINE	NH	VT	MASS	RI	CONN	TOTAL	NY-A	NY-BI*	NY-C	NJ	PA	TOTAL	OHIO	IND	ILL	MICH	WIS	TOTAL
alachua																			
allandale																			
amager									1				1						
anatum										2	1		3			2	1		3
atlanta																			
bareilly														1					1
belem																			
binza				3			3												
blockley				2			2	1	3		1	2	7			4			4
bovis-morbificans																			
braenderup																			
bredeney										1	1		2	1					1
cerro																			
chester																5	1		6
cholerae-suis										1			1						
cubana						1	1												
derby	1			2		2	5	1	3	5	2	5	20	4		1		4	5
duisburg								5								1		2	7
eastborne																			
enteritidis	1			10			11	23	3	1	3	18	48	3		1	7		11
gaminara																			
give																1			1
glostrup																			
hartford																1			1
heidelberg				6		1	7	4	2	7	1	2	16	8	1	7	6	5	27
indiana																			
infantis				5			5	5	2		4	9	20	4	2	7			13
inverness																			
java								1					1						
javiana											1	5	6		3	4			7
litchfield																			
livingstone													1						
manhattan								1	1					1	1				2
meleagridis																			
miami								1	1				2						
minneapolis						1	1												
mission																			
mississippi																			
montevideo				2			2	2			3	1	6	3		1	2		6
muenchen								1					1	1			1	1	3
new-brunswick																			
newington				1			1						1			1			1
newport				3		1	4	6	2	2	1	8	19	4	1	10	4	2	21
norwich								1					1						
oranienburg				3		2	5	1				4	5	1					1
panama								2					2	2		1	1	2	6
paratyphi A																			
paratyphi B										1			1	2					2
pensacola																			
poona									1				1			1	1		2
reading																			
richmond																		4	4
saint-paul																			
san-diego				3		3	6	2	2	3	2	1	10		2				9
schwarzengrund				1		1	1							1	1	17	1	6	19
senftenberg																			
siegburg																			
stanley										1			1						
tennessee				2		1	3					1	1						
thompson	1			2			3	2	5	9	1	2	19	1		3	2	1	7
typhi																			
typhi-murium		1	1	1		10	1	1	2	1	10	17	4	1	2	4	1		8
typhi-murium v cop				43			55	45	24	40	10	1	136	14	9	73	16	14	126
weltevreden				7			7						1				2		2
worthington									1				1			1	1		2
untypable group B		1					1									1			1
untypable group C-1																			
untypable group C-2					1		1												
untypable group D																			
untypable group E																			
unknown		2					2		1				1					5	5
TOTAL	3	4	1	96	1	23	128	105	54	75	32	75	341	53	22	148	48	46	317

New York (A-Albany, B-Beth Israel Hospital, C-City)

*The Beth-Israel Salmonella Typing Center in New York is a reference laboratory and processes many cultures from other states which are assigned to the respective states although reported by N.Y.-B.I. Beth Israel reported a total of 162 isolations for July.

**Includes June late reports.

TABLE I (Continued)

S E R O T Y P E	R E G I O N A N D R E P O R T I N G C E N T E R																		
	E A S T S O U T H C E N T R A L					W E S T S O U T H C E N T R A L					M O U N T A I N								
	KY	TENN	ALA	MISS	TOTAL	ARK	LA	OKLA	TEX	TOTAL	MONT	IDA	WYO	COLO	NM	ARI	UTAH	NEV	TOTAL
alachua		1			1														
allandale																			
amager																			
anatum							3			3									
atlanta																			
bareilly	1				1				1	1									
belem									1	1									
binza																			
blockley			1		1	1	1			2									
bovis-morbificans																			
braenderup																			
bredeney																			
cerro							1			1									
chester																			
cholerae-suis																			
cubana		1			1														
derby																			
duisburg						2				2									
eastborne						1				1									
enteritidis							1			2							1		1
gaminara																			
give							2			2									
glostrup							1			1									
hartford							1			1									
heidelberg		1	3		4		5		3	8	1			3		3	5		12
indiana																			
infantis							5		4	9							2		2
inverness																			
java							1			1							1	1	2
javiana				2	2	4	1	2	7	14									
litchfield										1									
livingstone							1												
manhattan																			
meleagridis																			
miami																			
minneapolis																			
mission																			
mississippi																			
montevideo		1	1		2		2			2									
muenchen			1		1		6	2		8						1			1
new-brunswick																			
newington																			
newport		2	1	1	4	3	3	1	10	17						1			1
norwich		1			1	1				1									
oranienburg	1		3		4	1	8		5	14									
panama	1				1		1		2	3								1	1
paratyphi A																			
paratyphi B																			
pensacola																			
poona							1			1									
reading																			
richmond																			
saint-paul				1	1		1		1	2							2		2
san-diego																			
schwarzengrund			1		1														
senftenberg																			
siegburg							1		1	2									
stanley																			
tennessee		1			1	1	2			3									
thompson							5			5									
typhi																			
typhi-murium	6	5	3	4	4	1	3	1	2	7				2	1		3		1
typhi-murium v cop					14	3	6	1	12	22						1			5
weltevreden							5			5									1
worthington																			
untypable group B															9	4			13
untypable group C-1															7				7
untypable group C-2									1	1					4				4
untypable group D															2				2
untypable group E																			
unknown																			
TOTAL	9	13	14	8	44	18	67	7	51	143	1	-0-	-0-	5	23	10	14	2	55

TABLE I (Continued)
BY SEROTYPE AND REPORTING CENTER

REGION AND REPORTING CENTER																			
WEST NORTH CENTRAL								SOUTH ATLANTIC											S E R O T Y P E
MINN	IOWA	MO	ND	SD	NEBR	KAN	TOTAL	DEL	MD	DC	VA	WV	NC	SC	GA	FLA	TOTAL		
																1	1	alachua	
																2	5	allandale	
								1			1					1	2	amager	
																		anatum	
																		atlanta	
1							1		1							1	2	bareilly	
																		belem	
3						1	4						3		4	1	8	binza	
																		blockley	
																		bovis-morbificans	
						1	1											braenderup	
																1	1	bredeney	
											1						1	cerro	
																		chester	
																		cholerae-suis	
																	2	cubana	
									2	3	1	2		1		4	12	derby	
1		1					2		3	8	1			1		1		duisburg	
																		eastborne	
																	14	enteritidis	
1		1					2		1	2						3	3	gaminara	
																	3	give	
																		glostrup	
2							2		1	2	2	3		6		5	19	hartford	
																		heidelberg	
1		4				4	9								8		10	indiana	
																1	1	infantis	
1		1					2			1						1	2	inverness	
																5	7	java	
																		javiana	
										1						1	3	litchfield	
									2								2	6	livingstone
										10		9		2			19	manhattan	
																3	3	meleagridis	
																		miami	
	1						1		1		2				2	2	2	minneapolis	
																1	3	mission	
																2	3	mississippi	
																3	11	montevideo	
																4	9	muenchen	
						4	4			2					8	11	28	new-brunswick	
																1	3	newington	
		2	1			1	4			1					3	6	12	newport	
																		norwich	
																		oranienburg	
1		1			1		2								1		1	panama	
												1						paratyphi A	
															1		1	paratyphi B	
																		pensacola	
																		poona	
4	1					1	1									1	1	reading	
						3	8			1		2		1		10	27	richmond	
																		saint-paul	
1							1											san-diego	
																		schwarzengrund	
																1	1	senftenberg	
																2	2	siegburg	
																		stanley	
5		1				8	13		1	2		1		1		1	6	tennessee	
																		thompson	
20	8	1	1	1	1	10	1	1	3	15	7	5		6		1	5	typhi	
		6					47							14		19	25	typhi-murium	
																		typhi-murium v cop	
																1	1	weltevreden	
																		worthington	
											6				2		8	untypable group B	
																		untypable group C-1	
																		untypable group C-2	
											2						2	untypable group D	
																		untypable group E	
										1					1		2	unknown	
41	10	18	2	1	2	33	107	16	55	20	34	1	48	3	76	126	379	TOTAL	

TABLE I (Continued)

REGION AND REPORTING CENTER						OTHER VI	TOTAL	PERCENT OF TOTAL	SEVEN MONTH TOTAL	% SEVEN MONTH TOTAL	1964 7 MOS. TOTAL	% 1964 7 MOS. TOTAL	S E R O T Y P E
P A C I F I C													
WASH	ORE	CAL	ALASKA	HAWAII	TOTAL								
		1			1		2		3				alachua
							1		1				allandale
							1		1				amager
				1	1		15		157		135		anatum
							2		3		5		atlanta
		2		2	4		10		61		51		bareilly
		2					1		1				belem
		4			2		5	1.8	13	1.6	10	2.1	binza
				6	4		32		180		248		blockley
					6		6		13		4		bovis-morbificans
		1			1		2		49		52		braenderup
		1		5	6		9		72		122		bredeney
				1	1		3		6		2		cerro
		2			2		9		72		45		chester
		1			1		2		5		10		cholerae-suis
2	2	2		5	11		10	3.2	97	3.9	37	16.2	cubana
							57		432		1,878		derby
							1		1				duisburg
		1			1		1		2				eastborne
14		1			15		104	5.8	548	4.9	376	3.3	enteritidis
		1			1		3		8		1		gaminara
							9		71		41		give
							1		1				glostrup
7	1	33			41		2		15				hartford
							136	7.6	873	7.8	956	8.3	heidelberg
2		8		2	12		1	4.4	21	5.4	21	4.4	indiana
							80		605		507		infantis
		2			2		1		3				inverness
							10		89		132		java
							41		123		111		javana
		1			1		6		51		37		litchfield
		2		2	4		2		17				livingstone
							13		59		103		manhattan
							19		132		38		meleagridis
							5		47		22		miami
							1		1				minneapolis
							2		7				mission
							6		17		16		mississippi
		2		1	1		29	1.6	260	2.3	257	2.2	montevideo
					2		25		113		133		muenchen
1		1			1		1		5		4		new-brunswick
		1			1		4		32		20		newington
		10			11		109	6.1	547	4.9	479	4.1	newport
							6		13		6		norwich
		3			3		48	2.7	323	2.9	306	2.6	oranienburg
2		1		5	6		22		107		92		panama
		1			1		1		8				paratyphi A
					2		7		106		97		paratyphi B
							1		3		4		pensacola
							4		30		25		poona
1				1			4	4.5	13	3.8	25	2.2	reading
							2		2				richmond
		3			2		81		422		259		saint-paul
		1			3		23		181		103		san-diego
					1		5		69		64		schwarzengrund
		1			1		3		33		70		senftenberg
							2		4				siegburg
		3		1			2		5		3		stanley
							12	3.5	126		236		tennessee
				1	4		63		267		179		thompson
11	3	11		8	14		56	3.1	446	4.0	405	3.5	typhi
	4	87			110		603	33.5	3,486	31.2	3,173	27.4	typhi-murium
							16		120		104		typhi-murium v cop
		1		3	4		4		15		12		Wetevreden
							4		24		33		worthington
	2				2		25		162		176		untypable group B
							7		42		42		untypable group C-1
							6		37		29		untypable group C-2
							2		23		18		untypable group D
							2		44		4		untypable group E
							10		73		50		unknown
40	12	191	-0-	43	286		1,800		11,180		11,569		TOTAL

(VI-Virgin Islands)

TABLE I-A
SEROTYPES REPORTED FROM HUMANS PREVIOUSLY DURING 1965
BUT NOT IN JULY

SEROTYPE	MONTH(S)	REPORTING CENTER(S)	NUMBER OF ISOLATIONS
adelaide	May	NY-A	1
albany	Jan-Feb	Ill(2)	
	Feb	Conn(1)	3
arkansas	June	Calif	1
berta	Jan-May-Jun	Mass(3)	
	Jan	Wisc(1)	
	Jan-Mar	Va(2)	
	Jan	Tenn(1)	
	Jan-Jun	Calif(2)	
	Jan	Hai(1)	
	Feb	Dela(1)	
	Feb-Jun	Fla(2)	
	Apr-May	Mich(2)	
	May	NY-BI(1)	
	May	NJ(1)	
	Jun	NY-A(1)	
	Jun	Ala(1)	
	Jun	La(1)	
	Jun	Colo(1)	21
bilthoven	Apr-Jun	Calif(2)	
	May	Mich(1)	3
blegdam	Feb	SD	1
brandenburg	Jun	Ill	1
california	Jan-Feb	Pa(3)	
	Jan	Tex(1)	
	Mar-Apr	Wash(3)	
	May	Ill(1)	
	May	Okla(1)	
	May	Ga(1)	10
carrau	Jan	La	1
cholerae-suis v kun	Jan-Feb-Mar	Ill(4)	
	Jan-Mar-May-Jun	Ga(5)	
	Feb	Va(1)	
	Mar	Ark(1)	
	Mar	NY-A(1)	
	Apr	Ohio(1)	
	Mar-Jun	Md(2)	
	May-Jun	Mich(2)	
	May	Tenn(1)	
	Jun	La(1)	19
colorado	Jan-May-Jun	Hai	3
corvallis	Feb	Hai	1
daytona	Mar	Tenn	1
denver	Feb	La	1
dublin	Feb-Mar-Apr	Calif	3
duesseldorf	Jan	Ohio(1)	
	Apr-Jun	La(2)	3
emek	May	Tenn	1
essen	Feb	Colo(1)	
	Jun	Ariz(1)	2
fayed	Mar	NC	1
florida	Jan-May	Fla	2
fresno	Mar	Tenn	1
heilbron	Jan	Mo	1
irumu	Jan-Feb-Mar	Mo(3)	
	Feb	Colo(1)	4
johannesburg	Jun	Minn	1
kaapstad	Feb-Jun	Colo	2

TABLE I-A (CONTINUED)
 SEROTYPES REPORTED FROM HUMANS PREVIOUSLY DURING 1965
 BUT NOT IN JULY

SEROTYPES	MONTH(S)	REPORTING CENTER(S)	NUMBER OF ISOLATIONS
kentucky	Jan	Calif(1)	6
	Jan-Feb	Hai(2)	
	Apr-May	Pa(2)	
	Jun	Mich(1)	
kottbus	Feb	NY-A(3)	
	Feb	Colo(1)	5
	Mar	Ind(1)	
leeuwarden	Jun	Tex	
lexington	Feb	Calif(1)	2
	Jun	Ill(1)	
lindenburg	May	Colo	1
loma-linda	May	Ore	1
lomita	May	Ore(1)	2
	Jun	Ohio(1)	
london	May	NY-C	1
luciana	Jan	Ariz	1
madelia	Mar	Pa(1)	2
	Mar	Fla(1)	
mishmar-haemek	Feb	Calif(1)	2
	May	Tex(1)	
muenster	Mar	Calif(1)	
	Jun	Ark(1)	3
	Jun	Fla(1)	
nagoya	Jun	Tex	1
nottingham	May	Ark	1
ohio	Feb	Colo(1)	4
	Feb	Wisc(1)	
	Jun	Calif(2)	
oslo	Jan-Jun	Hai(3)	12
	Mar-May	Calif(2)	
	Apr-May	Wisc(7)	
paratyphi-C	Jun	Iowa	1
pomona	Apr	Fla(1)	2
	May	Calif(1)	
remo	Mar	Va(1)	2
	May	Pa(1)	
rubislaw	Jan	La	2
sundsvall	Jun	Calif	1
taksony	Jan	NY-BI	1
thomasville	Jan	NJ	1
urbana	Jan	Ill(1)	14
	Apr-May	Conn(2)	
	Apr	Calif(1)	
	May	Mass (1)	
	Jun	Minn(1)	
	Jun	NC(1)	
	Jun	Ohio(7)	
virchow	Jan	Colo	1
westhampton	Feb	Mass(1)	3
	Jun	La(2)	
yalding	Jun	Tex	1
TOTAL			162

TABLE II
REPORTED ISOLATIONS OF *S. TYPHI* BY PATIENT STATUS - JULY 1965

STATE	REPORTED TO SALMONELLA SURVEILLANCE UNIT								CLINICAL CASES REPORTED IN MMWR	
	CASES		CARRIERS		UNKNOWN		TOTAL			
	July	1965 Cuml.	July	1965 Cuml.	July	1965 Cuml.	July	1965 Cuml.	July	1965 Cuml.
UNITED STATES	3	78	24	161	29	208	56	447	28	215
NEW ENGLAND	-	-	-	1	1	8	1	9	-	3
Maine	-	-	-	-	-	2	-	2	-	-
New Hampshire	-	-	-	-	-	-	-	-	-	-
Vermont	-	-	-	-	-	-	-	-	-	-
Massachusetts	-	-	-	-	1	2	1	2	-	2
Rhode Island	-	-	-	-	-	4	-	4	-	1
Connecticut	-	-	-	1	-	-	-	1	-	-
MIDDLE ATLANTIC	-	18	-	12	4	20	4	50	4	36
New York	-	18	-	6	4	15	4	39	4	28
New Jersey	-	-	-	-	-	4	-	4	-	2
Pennsylvania	-	-	-	6	-	1	-	7	-	6
EAST NORTH CENTRAL	-	10	3	29	5	25	8	64	7	32
Ohio	-	7	1	17	-	4	1	28	1	7
Indiana	-	-	2	11	-	6	2	17	-	9
Illinois	-	-	-	-	4	14	4	14	2	7
Michigan	-	2	-	1	1	1	1	4	1	4
Wisconsin	-	1	-	-	-	-	-	1	3	5
WEST NORTH CENTRAL	-	2	1	12	-	13	1	27	1	6
Minnesota	-	-	-	1	-	-	-	1	-	-
Iowa	-	-	-	-	-	-	-	-	-	1
Missouri	-	2	1	11	-	8	1	21	-	4
North Dakota	-	-	-	-	-	-	-	-	-	-
South Dakota	-	-	-	-	-	-	-	-	-	-
Nebraska	-	-	-	-	-	-	-	-	1	1
Kansas	-	-	-	-	-	5	-	5	-	-
South Atlantic	1	17	10	46	5	15	16	78	5	45
Delaware	-	-	-	-	1	1	1	1	-	4
Maryland	-	2	1	4	2	8	3	14	2	14
District of Columbia	-	-	-	-	-	-	-	-	-	-
Virginia	-	2	-	2	-	-	-	4	-	3
West Virginia	-	2	-	4	-	-	-	6	1	2
North Carolina	1	10	5	23	-	1	6	34	1	13
South Carolina	-	-	-	-	-	-	-	-	-	4
Georgia	-	-	-	1	1	3	1	4	-	2
Florida	-	1	4	12	1	2	5	15	1	3
EAST SOUTH CENTRAL	-	3	4	19	-	16	4	38	5	23
Kentucky	-	-	-	1	-	3	-	4	-	6
Tennessee	-	3	-	6	-	3	-	12	2	8
Alabama	-	-	-	-	-	-	-	-	2	5
Mississippi	-	-	4	12	-	10	4	22	1	4
WEST SOUTH CENTRAL	2	25	5	37	-	8	7	70	2	30
Arkansas	-	4	1	8	-	4	1	16	-	10
Louisiana	-	6	3	18	-	2	3	26	-	5
Oklahoma	-	1	1	3	-	1	1	5	-	2
Texas	2	14	-	8	-	1	2	23	2	13
MOUNTAIN	-	3	1	4	-	22	1	29	2	15
Montana	-	-	-	-	-	3	-	3	-	-
Idaho	-	-	-	-	-	-	-	-	-	-
Wyoming	-	-	-	-	-	-	-	-	-	1
Colorado	-	-	-	-	-	-	-	-	-	-
New Mexico	-	3	1	4	-	17	1	24	1	9
Arizona	-	-	-	-	-	2	-	2	1	5
Utah	-	-	-	-	-	-	-	-	-	-
Nevada	-	-	-	-	-	-	-	-	-	-
PACIFIC	-	-	-	1	14	81	14	82	3	25
Washington	-	-	-	-	-	4	-	4	-	2
Oregon	-	-	-	1	3	15	3	16	-	3
California	-	-	-	-	11	61	11	61	3	19
Alaska	-	-	-	-	-	-	-	-	-	-
Hawaii	-	-	-	-	-	1	-	1	-	1
Virgin Islands	-	-	-	-	-	-	-	-	*	*

*Does not report

TABLE III

Infrequent Serotypes

<u>Serotype</u>	<u>Center</u>	<u>July</u>	<u>1965*</u>	Total 1963 & 1964**	<u>Comment</u>
<u>S. alachua</u>	CALIF TENN	2	3	15	Nine of 15 nonhuman isolates reported since 1962 have been from turkeys.
<u>S. allandale</u>	FLA	1	1	0	Second reported isolate since the original in Allandale, Fla. during 1948; no source could be determined for this isolate.
<u>S. atlanta</u>	GA	2	3	16	All isolates reported to the SSU since 1962 were from GA.
<u>S. belem</u>	TEX	1	1	0	Isolated from a dog in MICH during 1964; first isolated in the Amazon River basin of Brazil.
<u>S. bovis-morbificans</u>	HAI	6	13	11	Cause of an outbreak in a children's ward in England; traced to a patient whose father worked with cattle.
<u>S. duisburg</u>	ARK	1	1	0	First time reported to the SSU.
<u>S. eastbourne</u>	CALIF	1	2	2	Has been reported from poultry in ARIZ, CALIF, and MINN.
<u>S. gaminara</u>	FLA	3	8	6	First isolated in Uruguay from the lymph nodes of normal swine at time of slaughter.
<u>S. hartford</u>	ILL LA	2	15	27	Involved in an interstate outbreak of unknown origin in 1962.
<u>S. inverness</u>	FLA	1	3	4	First isolated in FLA; two of the 1963-64 and all of the 1965 isolates from FLA.
<u>S. minneapolis</u>	CONN	1	1	0	Reported in 1964 from meat scraps and animal feed in ILL.
<u>S. mission</u>	FLA	2	7	4	All seven 1965 isolates from one county in FLA; no source could be determined for the July isolates, which were investigated.
<u>S. new-brunswick</u>	CALIF	1	5	10	Produced an outbreak of gastroenteritis in a military hospital in Australia during World War II; source of this was undetermined.

Table III (cont'd)

<u>Serotype</u>	<u>Center</u>	<u>July</u>	<u>1965*</u>	<u>Total 1963 & 1964**</u>	<u>Comment</u>
<u>S. norwich</u>	ARK FLA NY-A TENN VA (2)	6	13	25	Has been isolated from chickens in Indiana.
<u>S. paratyphi A</u>	CALIF	1	8	15	A major problem in the orient.
<u>S. pensacola</u>	GA	1	3	15	Majority of isolates from the southeastern States.
<u>S. richmond</u>	FLA KAN	2	2	8	Comprised 9 per cent of 303 isolates from tortoises in Israel between 1953 and 1962.
<u>S. siegburg</u>	FLA	2	4	2	Has been isolated from eggs and egg powder.
<u>S. stanley</u>	CALIF NY-C	2	5	22	Comprised 16.1 per cent of all salmonella isolates in the Netherlands during 1962; has been isolated from turkeys and monkeys.

* Represents 11,180 human isolations of salmonellae during the first 7 months of 1965.

** Represents 39,762 human isolations of salmonellae during 1963 and 1964.

TABLE IV

Age and Sex Distribution of 1,766 Isolations of Salmonellae
Reported for July 1965

<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>%</u>	<u>Cumulative %</u>
Under 1	101	74	175	14.6	14.6
1-4 yrs.	163	151	314	26.1	40.7
5-9 yrs.	94	75	169	14.1	54.8
10-19 yrs.	61	51	112	9.3	64.1
20-29 yrs.	37	56	93	7.7	71.8
30-39 yrs.	37	52	89	7.4	79.2
40-49 yrs.	30	38	68	5.7	84.9
50-59 yrs.	26	52	78	6.5	91.4
60-69 yrs.	18	25	43	3.6	95.0
70-79 yrs.	11	31	42	3.5	98.5
80 +	5	13	18	1.5	100.0
Unknown	268	297	565		
Total	851	915	1,766		
% of Total	48.2	51.8			

REPORTED NONHUMAN ISOLATES BY SEROTYPE AND SOURCE. *JULY, 1965

[illegible]

Source: National Animal Disease Laboratory, Ames, Iowa and Weekly Salmonella Surveillance Reports from Individual States

* Includes June late reports from Ames and March, April, May, and June late reports from US, FDA Div. of Microbiology, Washington, D. C.

TABLE VI

Source: National Animal Disease Laboratory, Ames, Iowa and Weekly Salmonella Surveillance Reports from Individual States.

*NY-A = New York-Albany

**Includes June late reports from Ames and March, April, May and June late reports from US, FDA Div. of Microbiology, Washington, D. C.

TABLE VI-A
SEROTYPES REPORTED FROM NONHUMAN SOURCES
PREVIOUSLY DURING 1965 BUT NOT IN JULY

Serotype	Month(s)	Reporting Center(s)	Number of Isolations
braendenburg	Jan	NC	1
cambridge	Apr	Ind	1
florida	Jan	Ill	1
goerlitz	Jan	Wash	1
hartford	Apr	Minn	1
inverness	Jun	Calif	1
java	Jan	Minn(1)	
	Mar-Apr	Calif(5)	
	May	Conn(2)	
	May	Fla(1)	
	Jun	NY-A(1)	10
lindenburg	Jun	La	1
menston	Mar	Va(1)	
	Apr-Jun	Wash(2)	3
mikawashima	Mar	Ind	1
muenster	Jan-Mar	Feb(2)	
	Jan-Apr	Miss(2)	
	Mar	Ohio(1)	5
norwich	Feb	NC	1
orion	Jan	Miss(1)	
	Jan	Mont(1)	
	Mar	Minn(2)	4
oslo	Mar-Apr	Ill(4)	
	Jun	Calif(6)	10
paratyphi-B	Mar	Tex(1)	
	May	Pa(2)	
	Jun	Md(1)	4
pomona	Apr	Mich	1
ruiru	Apr	Md	1
tallahassee	Jan	Fla	1
thomasville	Mar-Apr	Md(4)	
	Apr	(1)	5
typhi-suis	Feb	Calif	1
wassenaar	Apr	Ill	1
westerstede	Jan	Miss	2
Total			57